STATUS OF THE CLAIMS

1. (Previously presented) A formulation for a therapeutic or a cosmetic treatment, which formulation comprises:

at least one anti-sense polynucleotide to a connexin protein together with a pharmaceutically acceptable carrier or vehicle.

2. (Original) A formulation according to claim 1, suitable for topical administration.

3. (Previously presented) A formulation according to claim 1, wherein the polynucleotide is an oligodeoxynucleotide.

4. (Previously presented) A formulation according to claim 1which contains polynucleotides to one connexin protein only.

5. (Original) A formulation according to claim 4 wherein said connexin protein is connexin 43, connexin 26, connexin 31.1, connexin 32 or connexin 36.

6. (Previously presented) A formulation according to claim 1which contains polynucleotides to more than one connexin protein.

7. (Original) A formulation according to claim 6 in which one of the connexin proteins to which polynucleotides are directed is connexin 43.

8. (Original) A formulation according to claim 6 which includes polynucleotides directed to at least two of connexin 26, connexin 31.1, connexin 32, connexin 36 and connexin 43.

9. (Currently Amended) A formulation according to claim 5 in which the polynucleotide to connexin 43 is selected from the group consisting of:

GTA ATT GCG GCA AGA AGA ATT GTT TCT GTC (SEQ ID NO:1);

GTA ATT GCG GCA GGA GGA ATT GTT TCT GTC (SEQ ID NO:2); and

GGC AAG AGA CAC CAA AGA CAC TAC CAG CAT (SEQ ID NO:3).

10. (Currently Amended) A formulation according to claim 5 in which the polynucleotide to connexin 26 is:

TCC TGA GCA ATA CCT AAC GAA CAA ATA (SEQ ID NO:4).

11. (Currently Amended) A formulation according to claim 8 in which the polynucleotide to connexin 31.1 is:

CGT CCG AGC CCA GAA AGA TGA GGT C (SEQ ID NO: 5).

12. (Currently Amended) A formulation according to claim 5 in which the polynucleotide to connexin 32 is:

TTT CTT TTC TAT GTG CTG TTG GTG A (SEQ ID NO:6).

13. (Previously Presented) A formulation according to claim 1 in which the pharmaceutically acceptable carrier or vehicle is, or includes, a gel.

14. (Original) A formulation according to claim 13 in which the gel is a nonionic polyoxyethylene-polyoxypropylene copolymer gel.

15. (Previously Presented) A formulation according to claim 1 which further includes a surfactant or urea to assist with polynucleotide penetration into a cell.

16. (Previously Presented) A method of site-specific downregulation of connexin protein expression for a therapeutic or a cosmetic purpose which comprises administering a formulation as defined in claim 1 to a site on or within a patient at which said downregulation is required.

17. (Previously Presented) A method of reducing neuronal cell death which would otherwise result from a neuronal insult to a specific site in the brain, spinal cord or optic nerve of a patient which comprises the step of administering a formulation as defined in claim 1 to said site to downregulate expression of a connexin protein at and immediately adjacent said site.

18. (Original) A method according to claim 17 in which the formulation is administered to reduce neuronal loss due to physical trauma to the brain, spinal cord or optic nerve.

19. (Previously Presented) A method according to claim 17 in which the formulation is administered in a sufficient amount to downregulate expression of said connexin protein for at least 24 hours post-administration.

20. (Previously Presented) A method of promoting wound healing in a patient which comprises the step of administering a formulation as defined in claim 1 to said wound to downregulate expression of a connexin protein at and immediately adjacent the site of said wound.

21. (Original) A method according to claim 20 in which the wound is the result of trauma.

22. (Original) A method according to claim 21 in which the trauma is a burn.

23. (Previously Presented) A method according to claim 20 in which the wound is the result of a surgery.

24. (Previously Presented) A method of reducing inflammation as part of treating a wound or a tissue subjected to a physical trauma which comprises the step of administering a formulation as defined in claim 1 to, or proximate to, said wound or tissue.

25. (Original) A method according to claim 24 in which the formulation is administered to reduce inflammation due to physical trauma to the brain, spinal cord or optic nerve.

26. (Previously Presented) A method of decreasing scar formation in a patient who has suffered a wound which comprises the step of administering a formulation as defined in claim 1 to said wound to downregulate expression of a connexin protein at and immediately adjacent the site of said wound.

27. (Previously Presented) A method of skin rejuvenation or thickening for a cosmetic or a therapeutic purpose which comprises the step of administering, once or repeatedly, a formulation as defined in claim 1 to a skin surface.

28. (Original) A method according to claim 27 wherein said formulation includes polynucleotide directed to connexin 43 and is administered to regulate epithelial basal cell division and growth.

29. (Original) A method according to claim 27 wherein said formulation includes polynucleotide directed to connexin 31.1 and is administered to regulate outer layer keratinisation.

30. (Previously Presented) A method according to claim 27 wherein said formulation is a cream.

31. (Original) The use of at least one anti-sense polynucleotide to a connexin protein in the manufacture of a medicament for downregulating expression of said connexin protein for a therapeutic or cosmetic purpose.

32. (Original) The use of claim 31 wherein said medicament is for reducing neuronal cell death which would otherwise result from a neuronal insult.

33. (Original) The use of claim 31 wherein said medicament is for promoting wound healing.

34. (Original) The use of claim 31 wherein said medicament is for reducing inflammation.

35. (Original) The use of claim 31 wherein said medicament is for decreasing scar formation.

36. (Original) The use of claim 31 wherein said medicament is for skin rejuvenation for a cosmetic or therapeutic purpose.

37. (Previously Presented) A formulation according to claim 2, wherein the polynucleotide is an oligodeoxynucleotide.

38. (Currently Amended) A formulation according to claim 7 in which the polynucleotide to connexin 43 is selected from the group consisting of:

GTA ATT GCG GCA AGA AGA ATT GTT TCT GTC (SEQ ID NO:1);

GTA ATT GCG GCA GGA GGA ATT GTT TCT GTC (SEQ ID NO:2); and

GGC AAG AGA CAC CAA AGA CAC TAC CAG CAT (SEQ ID NO:3).

39. (Currently Amended) A formulation according to claim 8 in which the polynucleotide to connexin 43 is selected from the group consisting of:

GTA ATT GCG GCA AGA AGA ATT GTT TCT GTC (SEQ ID NO:1);

GTA ATT GCG GCA GGA GGA ATT GTT TCT GTC (SEQ ID NO:2); and

GGC AAG AGA CAC CAA AGA CAC TAC CAG CAT (SEQ ID NO:3).

40. (Currently Amended) A formulation according to claim 8 in which the polynucleotide to connexin 26 is:

TCC TGA GCA ATA CCT AAC GAA CAA ATA (SEQ ID NO:4).

41. (Currently Amended) A formulation according to claim 8 in which the polynucleotide to connexin 31.1 is:

CGT CCG AGC CCA GAA AGA TGA GGT C (SEQ ID NO:5).

42. (Currently Amended) A formulation according to claim 8 in which the polynucleotide to connexin 32 is:

TTT CTT TTC TAT GTG CTG TTG GTG A (SEQ ID NO:6).